LHVAC
AIR CONDITIONING

LARK CENTRAL AIR CONDITIONER

GUIDE TO THE PRODUCTS FOR AIR CONDITIONING

ISO9001:2000 standard

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Lark Central Air Conditioner

Company Introduction

Lark central air conditioner is dedicated to top class air conditioning: Rooftop packaged unit, ducted split unit, air cooled condensing unit, air cooled water chiller & heat pump, water cooled water chiller & heat pump, air handing unit and fan coil etc.

As a manufacturer and provider of high-quality air conditioning and solutions, Lark controls the comfort and assures the high quality.

Our efforts to ensure high quality and top graded level products begin in the designing lab and manufacturing sites, we invest to use advanced equipments in on-line inspection room and national standard testing room.

Lark is continuously striving to further develop and enhance its products.

Air to Air Packaged Rooftop Unit

Cooling capacity from 10.1 to 185 kW
Heating capacity from 10.2 to 185 kW

Packaged Rooftop Unit

Outdoor and Roof top installation

Functions

Cooling C&H Free Cooling

Characteristics

Structure

Panels and frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents.
Direct expansion coils with condensate drain tray.

Hermetic compressor

High efficiency scroll compressor for the whole range, with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers
Ripple type acoustic insulation for compressor section, and thermal insulation for coil and fan section, low noise

Centrifugal fan

Forward curve centrifugal fans for air treatment section and axial fans for condensation section
Front, side and underside air discharge of the treatment unit
High external pressure, long air supply distance

Electric panel

Electric panel consists of breakers and contactors for compressors and fan motors, phase sequence relay and other necessary protection devices for the main components

Easy operation line controller

Cooling/Heating/Auto
Error indication
Timing on/off

Optional

Economizer with fresh, return air dampers and fresh air hood
Free cooling function for low ambient temperature
Low ambient control device for operation of outdoor units at ambient temperatures from less than 20°C down to -10°C
BMS devices
T3 (Tropical climate)
Condenser coil guard
Roof curb
Metal / aluminum filter
Air pressure switch for indoor fan
High static condenser fan option with sealed + drain condensing section
Optional water heating coil
Metal or plastic mesh on condenser coil
Optional supply / return air configurations
Upgraded evaporator fan motor drives
G4 filter, plate and bag filter

Nomenclature

L AA H C P 10
① ② ③ ④ ⑤ ⑥

① L: Lark air product
② Unit type
AA: Air to Air
AW: Air to Water
WA: Water to Air
WW: Water to Water

③ C: Cooling only
H: Heat pump
④ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C

⑤ Type of unit
P: Packaged type
S: Split type
⑥ Model

Technical Data R407C

Model	Unit	10	12	14	17	20	25	28
Cooling*								
Cooling capacity	kW	10.1	12.2	14.1	17.5	20.2	24.8	28.2
Nominal current	A	8.2	10.7	11.9	12.39	13.96	15.93	19.5
Nominal power input	kW	3.8	4.91	5.5	6.65	7.8	9.44	11.4
Heating*								
Heating capacity	kW	10.2	12.4	14.2	15.7	20.3	24.8	28.4
Nominal current	A	7.8	10.2	11.3	11.69	13.16	14.93	18.3
Nominal power input	kW	3.5	4.6	5.23	6.02	7.2	8.76	10.53
Compressor								
Qty	Nr.	1	1	1	1	2	2	2
Type	/	Scroll						
Air treatment section								
Centrifugal fans number	Nr.	1	1	1	1	1	1	1
Drive type	/	Direct	Direct	Direct	Direct	Direct	Belt	Belt
Air flow	m^3/h	1950	2350	2700	3100	3875	4850	5450
External static pressure	Pa	150	180	180	180	230	230	250
Motor power	kW	0.25	0.32	0.45	0.55	0.75	1.1	1.5
Condensation section								
Axial fans number	Nr.	1	1	1	1	1	1	1
Air flow	m^3/h	4170	4700	5700	6100	8150	8900	8900
Motor power	kW	0.25	0.25	0.25	0.25	0.37	0.37	0.37
Dimensions								
Height	mm	880	880	880	880	1100	1100	1100
Width	mm	1350	1350	1350	1350	1820	1820	1820
Depth	mm	990	990	990	990	1400	1400	1400
Net weight	kg	240	250	280	320	360	450	500
**Sound pressure level ** **	dB(A)	67	68	69	71	72	72	72

Model	Unit	32	36	42	46	56	63	75
Cooling*								
Cooling capacity	kW	31.4	37.7	40.8	46.5	56.5	61.4	75.34
Nominal current	A	20.5	25.3	29.52	34.8	40.64	44	52.6
Nominal power input	kW	11.9	15.2	16.1	19.12	22.94	24.07	28.9
Heating*								
Heating capacity	kW	31.4	37.0	40.1	45.43	55.2	65	73.4
Nominal current	A	19.0	23.9	27.72	32.9	38.14	39.2	49.0
Nominal power input	kW	10.97	14.2	14.84	17.73	21.2	21.49	26.5
Compressor								
Qty	Nr.	2	2	2	2	2	2	2
Type	/	Scroll						
Air treatment section								
Centrifugal fans number	Nr.	1	1	1	1	1	1	1
Drive type	/	Belt	Belt	Belt	Belt	Belt	Belt	Belt
Air flow	m^3/h	6200	7000	7750	8900	10900	12672	14500
External static pressure	Pa	270	290	250	270	300	300	260
Motor power	kW	1.8	2.2	2.2	2.2	3	3	4
Condensation section								
Axial fans number	Nr.	2	2	2	2	2	2	2
Air flow	m^3/h	13200	14500	15000	18500	22500	24620	28500
Motor power	kW	0.74	0.74	0.74	0.74	0.74	0.74	2.2
Dimensions								
Height	mm	1170	1170	1170	1170	1170	1170	1590
Width	mm	2550	2550	2550	2550	2550	2550	3400
Depth	mm	1830	1830	1830	1830	1830	1830	2200
Net weight	kg	540	700	780	830	930	970	1000
**Sound pressure level ** **	dB(A)	72	72	72	74	74	75	75

Model	Unit	90	105	125	150	170	190
Cooling*							
Cooling capacity	kW	86.7	103.1	124.6	150.7	170	185
Nominal current	A	63.8	73.3	87	105.1	128.1	143.5
Total power input	kW	35.3	38.8	49.3	58	64.1	70.8
Heating*							
Heating capacity	kW	86.0	109.5	122.5	146.8	169.7	185
Nominal current	A	60.2	68.9	81	97.9	122.4	137.3
Total power input	kW	32.6	35.7	45.3	53.2	59.3	65.3
Compressor							
Qty	Nr.	4	4	4	4	4	4
Type	/	Scroll					
Air treatment section							
Centrifugal fans number	Nr.	1	1	1	1	1	1
Drive type	/	Belt	Belt	Belt	Belt	Belt	Belt
Air flow	m^3/h	17500	20200	22032	29160	33000	36800
External static pressure	Pa	300	300	300	410	500	500
Motor power	kW	5.5	5.5	7.5	7.5	15	15
Condensation section							
Axial fans number	Nr.	4	4	4	4	4	4
Air flow	m^3/h	33500	37700	49240	60000	58700	65000
Motor power	kW	2.2	2.2	3.0	6.0	4.4	4.4
Dimensions							
Height	mm	1650	1650	1650	1650	1650	1650
Width	mm	4700	4700	5800	5800	5800	5800
Depth	mm	2240	2240	2240	2240	2240	2240
Net weight	kg	1200	1600	2100	2400	2500	2800
**Sound pressure level ** **	dB(A)	75	75	78	78	80	80

* Performance values refer to the following conditions:
Cooling: room air temperature 27.0°C DB RH 50%, ambient air temperature 35°C.
Heating: room air temperature 21.0°C DB, ambient air temperature 7°C DB / 6°C WB.
** Noise level measured by adopting average value in the noise lab with background noise of 25 dB(A), at a distance of 1.5m high fan speed.

Air to Air Ducted Split Unit

Cooling capacity from 19.5 to 103.7 kW
Heating capacity from 22.6 to 115.8 kW

Ducted Split Unit

Outdoor and Indoor installation

Functions

Cooling C&H

Characteristics

● 11 sizes available ranging from 19.5 kW to 103.7 kW cooling capacity.Cooling only and heat pump version

● Wide application as hotel, apartment, villa, factory, shopping center, office building, school, etc.

● Panels and frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents

● High efficiency scroll compressor for the whole range, with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers

● Compact indoor design, long air supply distance

● Outdoor units are equipped with low noise axial fans

● Indoor units are equipped with quiet centrifugal fans

● Split installation, connected by means of flare/welding coupling

● Easy operation line controller
- ♦ Cooling/Heating/Fan/Auto
- ♦ Error indication
- ♦ Timing on/off

● Multi safety protection
- ♦ High/low pressure protection
- ♦ Overheat protection
- ♦ Current overload protection
- ♦ Phase sequence relay
- ♦ Time delay and antifreeze switch

Optional

- ♦ Electric heater
- ♦ Hot water coil
- ♦ T3 (Tropical climate)

Nomenclature

L AA H C S 20 W/N
① ② ③ ④ ⑤ ⑥ ⑦

① L: Lark air product
② Unit type
AA: Air to Air
AW: Air to Water
WA: Water to Air
WW: Water to Water

③ C: Cooling only
H: Heat pump
④ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑤ Type of unit
P: Packaged type
S: Split type(Ducted split)

⑥ Model
⑦ Unit name
W: Outdoor unit
N: Indoor unit
W/N: The whole unit

Technical Data R407C

Model		Unit	20	25	32	36	42	48
Nominal cooling capacity*		kW	19.5	24.8	31.2	35.6	41.3	47.4
Nominal heating capacity**		kW	22.6	28.9	35.8	40.8	46.9	54.4
Connection								
Method		/	Flare	Flare	Flare	Welding	Welding	Welding
Liquid pipe diameter		Φ mm	2×9.52	2×12.7	2×12.7	2×12.7	15.88/12.7	15.88/12.7
Gas pipe diameter		Φ mm	2×15.88	2×19.05	2×19.05	2×19.05	28/19.05	28/19.05
OUTDOOR UNIT	**Compressor**							
	Qty/circuit nr.	Nr.	2/2	2/2	2/2	2/2	2/2	2/2
	Cooling power input*	kW	7.2	9.3	11.8	12.8	15.1	17.9
	Heating power input**	kW	7.13	9.21	11.68	12.67	14.95	17.72
	Energy adjustment	%	50-100	50-100	50-100	0-100	40-60-100	33-66-100
	Axial fans							
	Quantity	Nr.	1	1	1	1	2	2
	Air flow	m^3/h	9400	9400	12500	14200	18800	18800
	Sound pressure level***	dB(A)	67	67	68	70	71	71
	Dimension(WxHxD)	mm	1020x830x1030	1020x830x1030	1180x960x1130	1180x960x1130	1640x880x1130	1640x880x1130
	Net weight	kg	170	180	220	230	260	280
INDOOR UNIT	**Centrifugal fans**							
	Quantity	Nr.	2	2	2	2	2	2
	Air flow	m^3/h	3500	4500	5650	6450	7400	8550
	ESP	Pa	120	100	150	130	180	200
	Sound pressure level***	dB(A)	64	64	66	66	68	68
	Dimension(WxHxD)	mm	1660x480x915	1660x480x915	1660x580x915	1790x580x915	1840x580x1045	2065x680x1160
	Net weight	kg	90	100	150	160	180	200
Additional electric heater******		kW	2×3	2×4	2×5	2×6	2×6	2×8
Additional heating coil******		kW	22.2	28.4	35.1	40.0	46.0	53.3

Model		Unit	52	62	72	88	104
Nominal cooling capacity*		kW	51.3	63.3	71.3	87.9	103.7
Nominal heating capacity**		kW	58.9	72.6	81.9	100.0	115.8
Connection							
Method		/	Welding	Welding	Welding	Welding	Welding
Liquid pipe diameter		Φ mm	15.88/12.7	2×15.88	2×15.88	2×15.88	2×19.05
Gas pipe diameter		Φ mm	28/19.05	2×28	2×28	2×28	2×35
OUTDOOR UNIT	**Compressor**						
	Qty/circuit nr.	Nr.	2/2	2/2	2/2	2/2	2/2
	Cooling power input*	kW	18.4	23.1	26.6	28.1	39.3
	Heating power input**	kW	18.22	22.87	26.33	27.82	38.91
	Energy adjustment	%	30-70-100	50-100	50-100	50-100	50-100
	Axial fans						
	Quantity	Nr.	2	2	2	2	2
	Air flow	m^3/h	21500	26500	29880	36500	43500
	Sound pressure level***	dB(A)	71	71	71	71	71
	Dimension(WxHxD)	mm	1840x970x1130	1840x970x1130	2120x970x1130	2155x1300x2030	2165x1300x2105
	Net weight	kg	330	340	460	780	800
INDOOR UNIT	**Centrifugal fans**						
	Quantity	Nr.	2	2	2	2	2
	Air flow	m^3/h	9250	11450	12900	14800	17100
	ESP	Pa	200	300	300	280	500
	Sound pressure level***	dB(A)	68	68	69	69	70
	Dimension(WxHxD)	mm	2165x608x1160	1870x980x1230	1870x1080x1230	2100x1180x1270	2100x1180x1270
	Net weight	kg	220	230	300	320	400
Additional electric heater******		kW	2×8	2×10	2×10	2×12	2×14
Additional heating coil******		kW	57.8	71.2	80.3	98.0	113.5

Performance values refer to the following conditions:
* Cooling capacity is measured under the condition: indoor temperature DB 27℃ / WB 19℃ , ambient temperature DB 35℃ / WB 24℃ .
** Heating capacity is measured under the condition: indoor temperature DB 20℃ / WB 15℃ , ambient temperature DB 7℃ / WB 6℃ .
*** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in a clear field.
**** Optional as request.

Air to Water Chiller & Heat Pump

Cooling capacity from 8.6 to 51.3 kW
Heating capacity from 9.5 to 58 kW

Air to Water Chiller & Heat Pump

Outdoor installation

Functions

Cooling C&H Heat Recovery

Characteristics

Structure

Panels and base frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents

Compressor

Hermetic scroll type compressor, equipped with the crankcase heater and thermal protection with thermal overload cut-out and crankcase heater mounted on rubber vibration isolators

Axial fan

External rotor type axial fans, equipped with single phase direct drive motors, low noise 6 poles, protection level IP54, provided with a protective outlet grille

Evaporator

High efficiency and low pressure drop stainless steel (AISI 316) water exchangers, with anti-freeze heating element (option) and differential pressure switch, factory insulated with flexible close cell material

Condenser

Coils are consisting of seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins, 100% fully quality tested; sub cooling circuit to prevent freezing at the base (optional); protected with metal grill

Desuperheater

High efficiency stainless steel brazed plate heat exchanger, factory insulated with flexible close cell material (optional)

Refrigerant circuit

Copper tube connection with charge valve, filter, sight glass, gas-liquid separator, thermostatic expansion valve, low pressure switch with automatic reset, high pressure switch with manual reset
The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve

Water circuit

Built with air vent valve, water drain connection, and female-threaded hydraulic connectors
Water pump (8kW-30kW), differential pressure switch
Expansion tank (8kW-30kW)

Electric panel

Consists of:

- Compressor contactor
- Compressor protection breaker
- Fan motor protection breaker
- Control circuit protection breaker
- Phase sequence relay (only for 3-phase)
- Programmable microprocessor controller

Optional

Additional electric heater embedded in the coils for defrosting in low temperature ambient. It must be factory installed
Stainless steel covering
Remote condenser
Tube in tube heat exchanger
Water circuit electric heater

Nomenclature

L AW H R P A 10
① ② ③ ④ ⑤⑥ ⑦

① L: Lark air product
② Unit type
AW: Air to Water
AA: Air to Air
③ C: Cooling only
H: Heat pump
④ Heat recovery type
--: Without heat recovery
R: With heat recovery
⑤ Heat exchanger
T: Tube in tube type
P: Plate type
⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Model

Technical Data R407C

Model	Unit	08	10	12	16	22	25	30	35	40	50
Cooling *											
Cooling capacity	kW	8.6	11	12.6	15.3	22.8	25.7	30.8	36.3	41.5	51.3
Cooling input (without water pump)	kW	2.91	3.66	4.21	4.92	7.81	8.55	10.2	12.87	14.68	17.52
EER	/	2.96	3.01	2.99	3.11	2.92	3.01	3.02	2.82	2.83	2.93
Heating **											
Heating capacity	kW	9.5	12.1	13.8	16.3	25.2	28.1	33.5	42.5	47.5	58
Heating input (without water pump)	kW	2.91	3.66	4.21	4.92	7.81	8.55	10.2	12.87	14.68	17.52
COP	/	3.26	3.31	3.28	3.31	3.23	3.29	3.28	3.3	3.24	3.31
Hermetic compressor											
Type	/	Scroll(380-415V/3Ph/50Hz)									
Quantity/circuit	/	1	1	1	1	2/2	2/2	2/2	2/2	2/2	2/2
Evaporator											
Type	/	Plate heat exchanger									
Water flow	m^3/h	1.5	1.9	2.2	2.6	3.9	4.4	5.3	6.2	7.1	8.8
Water side pressure drop	kPa	33	33	33	36	38	39	42	50	52	52
Water connection size	mm	DN25	DN25	DN25	DN25	DN40	DN40	DN40	DN40	DN40	DN40
Circulating pump											
Power input	kW	0.35	0.35	0.35	0.35	0.75	0.75	0.92	------	------	------
Axial fans											
Quantity	Nr.	1	1	1	2	1	1	1	2	2	2
Airflow	m^3/h	4500	4500	4500	9000	9000	9000	12580	17000	17000	22000
Overal dimension											
Length	mm	1250	1250	1250	1250	1600	1600	1600	2000	2000	2000
Width	mm	452	452	452	452	900	900	900	900	900	900
Height	mm	1180	1180	1180	1180	1080	1080	1080	1080	1080	1080
Noise level ***	dB(A)	58	58	60	64	66	66	68	70	70	70
Net weight	kg	145	145	150	190	270	290	310	360	380	465

Technical Data R410a

Model	Unit	08	10	12	16	20	25	30	35	40	50
Cooling *											
Cooling capacity	kW	8.7	10.7	12.5	15.8	21.5	24.8	30	35.6	41	50.6
Cooling input (without water pump)	kW	3.2	4.01	4.56	5.79	8.2	9.03	9.39	13.2	15.02	18.8
EER	/	2.72	2.67	2.74	2.73	2.62	2.75	3.19	2.7	2.73	2.69
Heating **											
Heating capacity	kW	10.3	13.5	14	17.8	26.3	29	34	41.8	47.2	60
Heating input (without water pump)	kW	3.5	4.55	4.58	5.81	8.7	9.23	9.43	14.3	15.57	20.45
COP	/	2.94	2.97	3.06	3.06	3.02	3.14	3.61	2.92	3.03	2.93
Hermetic compressor											
Type	/	Scroll(380-415V/3Ph/50Hz)									
Quantity/ circuit	/	1	1	1	1	2/2	2/2	2/2	2/2	2/2	2/2
Evaporator											
Type	/	Plate heat exchanger									
Water flow	m^3/h	1.5	1.8	2.1	2.7	3.7	4.3	5.2	6.1	7.1	8.7
Water side pressure drop	kPa	33	33	33	36	38	39	42	50	52	52
Water connection size	mm	DN25	DN25	DN25	DN25	DN40	DN40	DN40	DN40	DN40	DN40
Circulating pump											
Power input	kW	0.35	0.35	0.35	0.35	0.75	0.75	0.92	------	------	------
Axial fans											
Quantity	Nr.	1	1	1	2	1	1	1	2	2	2
Airflow	m^3/h	4500	4500	4500	9000	9000	9000	12580	17000	17000	22000
Overal dimension											
Length	mm	1250	1250	1250	1250	1600	1600	1600	2000	2000	2000
Width	mm	452	452	452	452	900	900	900	900	900	900
Height	mm	1180	1180	1180	1180	1080	1080	1080	1080	1080	1080
Noise level ***	dB(A)	58	58	60	64	66	66	68	70	70	70
Net weight	kg	145	145	150	190	270	290	310	360	380	465

* Ambient temperature 35ºC; user side water in/out 12/7ºC.
** Ambient temperature 7ºC; user side water in/out 40/45ºC.
*** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in an ideal field (fan side).

Air to Water Modular Chiller & Heat Pump

Cooling capacity from 60 to 128 kW
Heating capacity from 65 to 135 kW

Air to Water Modular Chiller & Heat Pump

Outdoor installation

Functions

Cooling C&H Heat Recovery

Characteristics

Structure

The master module can work independently or together with up to 15 slave modules, cooling capacity from 60 to 2048kW

Hermetic compressor

3-phase scroll type compressor, with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers

Axial fan

External rotor type axial fans, equipped with three phase direct drive motors, low noise 8 poles, protection level IP54, provided with a protective outlet grille

Evaporator

Evaporator built with high efficiency tube in tube type heat exchanger, factory insulated with flexible close cell material

Condenser

Condenser built with seamless internal screw thread copper tubes mechanically expanded into blue wave hydrophilic aluminum fins

Refrigerant circuit

Refrigerant circuit complete with charge valves, filter drier, sight glass, gas-liquid separator, thermostatic expansion valve, high & low pressure switch. The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve

Hydraulic circuit

Hydraulic circuit built with galvanized pipe, complete with water discharge connection for tube in tube heat exchanger and flange type hydraulic connectors in two directions easy for connections from both sides of the units

Electric panel

Electric panel consist of: compressor contactor, fan motor contactor, compressor protection breaker, fan protection breaker, phase sequence relay and microprocessor with function display (display only for master/packaged unit)
Automatic operation dramatically reducing maintenance cost thanks to reliable microprocessor system

Optional

- ♦ Paddle flow switch
- ♦ Metallic filter for hydraulic circuit
- ♦ Water pump
- ♦ Rubber anti-vibration mounting
- ♦ BMS
- ♦ Stainless steel covering
- ♦ Heat recovery 20%-25%
- ♦ Flange
- ♦ Remote condenser
- ♦ Four compressors/six compressors
- ♦ Plate heat exchanger

Nomenclature

L AW H R T C MM 80
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① L: Lark air product
② Unit type
AA: Air to Air
AW: Air to Water
WA: Water to Air
WW: Water to Water
③ C: Cooling only
H: Heat pump
④ Heat recovery type
--:Without heat recovery
R:With heat recovery
⑤ Heat exchanger
S: Shell and tube type
T: Tube in tube type
⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Modular type
MM: Modular master
MS: Modular slave
⑧ Model

Technical Data R407C

Model	Unit	60	68	88	88	108	108	128
Capacity								
Cooling capacity*	kW	60	68	88	80	108	108	128
Cooling power input*	kW	19.26	21	26.3	26.25	34.38	34.41	41.36
Heating capacity**	kW	65	70	95	88	110.8	110.8	135
Heating power input**	kW	19.26	20.8	26.16	26.25	34.38	34.41	40.92
Compressor								
Type	/	Scroll						
Qty/refrigerant circuit	Nr.	4/4	2/2	2/2	6/6	3/3	6/6	4/4
Axial fan								
Quantity	Nr.	2	2	2	3	3	3	2
Airflow	m^3/h	24000	24000	35800	33000	39000	39000	48000
Evaporator								
Type	/	S	T	T	S	S	S	S
Water flow	m^3/h	10.3	11.7	15.1	13.7	17.2	17.2	22
Water side pressure drop ***	kPa	43	43	42	41	41	41	41
Noise level**	dB(A)	70	74	72	70	73	73	77
Dimensions								
Length	mm	1980	2110	2170	3100	3100	3100	2200
Width	mm	1005	1080	1285	1050	1050	1050	1560
Height	mm	1750	1900	2050	1900	1900	1900	2160
Net weight	kg	700	800	950	920	1000	1000	1450

* Ambient temperature 35ºC; user side water in/out 12/7ºC.
** Ambient temperature DB 7ºC, WB 6ºC; user side water in/out temperature 40/45ºC.
*** In the nominal water flow condition the pressure drop is between this range.
**** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in a clear field (fan side).

Air to Water Screw Chiller & Heat Pump

Cooling capacity from 152.1 to 752.4 kW
Heating capacity from 174.4 to 856.6 kW

Air to Water Screw Chiller & Heat Pump

Outdoor installation

Functions

Cooling C&H Heat Recovery

Characteristics

● 11 sizes available ranging from 152.1 kW to 752.4 kW cooling capacity

● Semi-hermetic screw compressor for mod.150 to 760. Each compressor is equipped with a crankcase heater and a thermal overload cut-out; the screw compressor is also complete with a built-in electronic protection with temperature sensor located directly in the motor winding and on the discharge line

● External rotor type axial fans, equipped with three phase direct drive motors, low noise 8 poles, protection level IP54, provided with a protective outlet grille

● Evaporator built with high efficiency shell and tube type heat exchanger, factory insulated with flexible close cell material. Condenser built with seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins

● Refrigerant circuit complete with charge valves, filter drier, sight glass, gas-liquid separator, thermostatic expansion valve, high & low pressure switch. The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve

● Hydraulic circuit built with galvanized pipe, complete with water discharge connection for shell and tube heat exchanger and flange type hydraulic connectors

● Electric panel consist of: compressor contactor, fan motor contactor, compressor isolating switch, fan protection breaker, phase sequence relay and microprocessor with function display

● Automatic operation dramatically reducing maintenance cost thanks to reliable microprocessor system

OPTIONAL

- ♦ Metallic filter for hydraulic circuit
- ♦ Rubber antivibration mounting
- ♦ Remote condenser
- ♦ BMS
- ♦ Modular design
- ♦ T3 (Tropical climate)
- ♦ Heat recovery
- ♦ Plate heat exchanger

Nomenclature

L AW H R S C 150
① ② ③ ④ ⑤ ⑥ ⑦

① L: Lark air product
② Unit type
AW: Air to Water
AA: Air to Air

③ C: Cooling only
H: Heat pump
④ Heat recovery type
--: Without heat recovery
R: With heat recovery
⑤ Heat exchanger
T: Tube in tube type
P: Plate type
S: Shell and tube type

⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Model

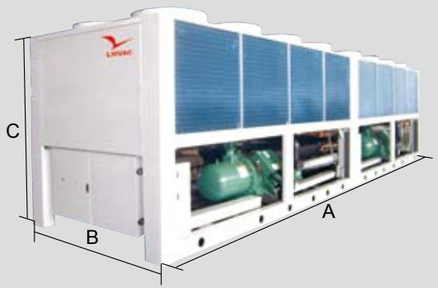
Technical Data R407C

Model	Unit	150	180	250	320	380	430
Cooling capacity *	kW	152.1	184.9	247.6	315.6	376.2	432.5
Heating capacity *	kW	174.4	211.6	277.6	361.5	428.3	489.2
Compressor							
Qty/refrigerant circuit	Nr.	4/2	4/2	1/1	1/1	1/1	2/2
Cooling power input *	kW	47.2	58.4	73.4	97.2	115.7	125.1
Heating power input *	kW	46.3	57.9	72.8	96.3	113.6	123.9
Energy adjustment steps	step	4	4	4	4	4	8
Evaporator							
Water flow rate	m^3/h	26.2	31.8	42.6	54.3	64.7	74.4
Water side pressure drop	kPa	41	41	42	43	42	44
Axial Fan							
Fan motor number	Nr.	4	4	6	6	8	10
Power input	kW	1.3	1.3	1.3	1.3	1.3	1.3
Air flow	m^3/h	96000	96000	144000	144000	192000	240000
Sound pressure level **	dB(A)	76	76	77	77	78	80
Net weight	kg	1950	2150	2500	2900	3650	4450

Model	Unit	500	570	640	700	760
Cooling capacity *	kW	495.6	563.2	631.2	691.8	752.4
Heating capacity *	kW	555.2	639.1	723.0	789.8	856.6
Compressor						
Qty/refrigerant circuit	Nr.	2/2	2/2	2/2	2/2	2/2
Cooling power input *	kW	154.2	170.6	194.4	212.9	222.3
Heating power input *	kW	152.7	169.1	192.7	209.9	220.2
Energy adjustment steps	step	8	8	8	8	8
Evaporator						
Water flow rate	m^3/h	85.2	96.9	108.6	119.0	129.4
Water side pressure drop	kPa	43	43	44	45	45
Axial Fans						
Fan motor number	Nr.	12	12	12	14	16
Power input	kW	1.3	1.3	1.3	1.3	1.3
Air flow	m^3/h	288000	288000	288000	336000	384000
Sound pressure level **	dB(A)	81	81	81	82	83
Net weight	kg	4950	5450	5750	6650	7250

* The performance values refer to the following conditions:
Cooling: ambient air temperature 35ºC; evaporator water in/out temperature 12/7ºC.
Heating: ambient air temperature DB 7ºC, WB 6ºC; condenser water in/out temperature 40/45ºC.
** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in a clear field.

Overall Dimensions



Model	A	B	C
150	2500	2160	2230
180	2500	2160	2230
250	3290	2160	2230
320	3590	2160	2230
380	4680	2160	2230
430	5800	2160	2230
500	6590	2160	2430
570	6890	2160	2430
640	7190	2160	2430
700	8290	2160	2430
760	9270	2160	2430

Water Source Heat Pump

Cooling capacity from 4.77 to 140 kW
Heating capacity from 5.1 to 163.9 kW

Water to Water Unit

Indoor or outdoor installation
Heat recovery rate: 20%-25%

Functions

Cooling C&H Heat Recovery

Characteristics

Structure

Panels and frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents

Hermetic compressor

Single phase rotary type (mod.05 to 07), single phase (mod.08, 10, 12) and 3-phase (mod.08 to 140) scroll type compressors, with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers

Evaporator

High efficiency plate type heat exchanger, factory insulated with flexible close cell material

Condenser

High efficiency plate type heat exchanger, factory insulated with flexible close cell material

Desuperheater

High efficiency stainless steel brazed plate heat exchanger, factory insulated with flexible close cell material

Refrigerant circuit

Copper tube connection with charge valves, filter drier, thermostatic expansion valve (capillary for mod.05 to 14), gas-liquid separator, high pressure switch and low pressure switch
The heat pump units are complete also with 4-way valve and one way valve

Hydraulic circuit

Built with user side and source side water inlet/outlet connectors, water discharge connectors, air vent valve (mod.05 to 30 the user side is complete also with expansion vessel, water pump and flow switch.)

Electric panel

Consists of:
- ♦ Compressor contactor
- ♦ Compressor protection breaker
- ♦ User side water pump contactor (for mod.05 to 30)
- ♦ User side water pump breaker (for mod.05 to 30)
- ♦ Microprocessor with function display

Optional

- ♦ Sight glass which must be installed in factory
- ♦ Source side flow switch
- ♦ Source side water pump
- ♦ Anti-vibration rubber
- ♦ Metallic filter for the water circuit
- ♦ Heat recovery exchanger
- ♦ Tube in tube heat exchanger

Nomenclature

L WW H R P C 10
① ② ③ ④ ⑤ ⑥ ⑦

① L: Lark air product
② Unit type
WA: Water to Air
WW: Water to Water
③ C: Cooling only
H: Heat pump
④ Heat recovery type
--: Without heat recovery
R: With heat recovery
⑤ Heat exchanger
T: Tube in tube type
P: Plate type
⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Model

Technical Data R407C

Model	Unit	5	7	8	10	12	14	16	20	25	30
Nominal cooling capacity*	kW	4.77	6.9	9.02	10.82	12.83	14.75	17.18	20.89	26.62	31.93
Nominal heating capacity**	kW	5.1	7.38	9.67	11.86	14.35	17.16	18.82	22.36	28.7	34.22
COP	/	4.3	4.4	4.69	4.32	4.3	4	4.6	4.7	4.8	4.9
Hermetic compressor											
Qty/circuit nr.	Nr.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	2/2	2/2	2/2
Cooling power input*	kW	0.98	1.38	1.66	1.96	2.36	2.64	2.94	3.44	4.42	5.52
Heating power input**	kW	1.18	1.66	2.06	2.74	3.34	4.12	4.12	4.78	5.88	6.96
User side heat exchanger											
Pressure drop	kPa	20					25				
Water flow	m³/h	0.77	1.12	1.46	1.75	2.08	2.39	2.79	3.39	4.32	5.18
Source side heat exchanger											
Pressure drop	kPa	8			12-18						
Water flow	m³/h	0.43	0.62	0.8	0.95	1.13	1.32	1.47	1.81	2.31	2.57
Dimension (mm)	L	610	610	610	610	610	610	610	1100	1100	1260
	W	500	500	500	500	500	500	500	745	745	845
	H	850	850	850	850	850	850	850	968	968	1050
Sound pressure level***	dB(A)	56	56	56	56	58	58	61	68	68	71
Net weight	kg	92	96	110	120	130	140	150	250	280	300

Model	Unit	38	50	56	65	75	90	110	130	140
Nominal cooling capacity*	kW	37.1	50.5	56.4	64.7	75.3	90.4	110	130	140
Nominal heating capacity**	kW	39.5	54	61	72	84	105	128	152	163.9
COP	/	4.4	4.3	4.5	4.6	4.7	4.5	4.6	4.7	4.7
Hermetic compressor										
Qty/circuit nr.	Nr.	2/2	2/2	2/2	2/2	2/2	4/4	4/4	4/4	4/4
Cooling power input*	kW	6.8	9.2	9.9	11.6	13.5	16.2	19.3	22.8	24.6
Heating power input**	kW	8.9	12.4	13.6	15.6	18	23	27.4	32.4	34.9
User side heat exchanger										
Pressure drop	kPa	42	38	40	43	45	40	40	42	42
Water flow	m³/h	6.38	8.68	9.7	11.13	12.95	15.5	18.9	22.4	24
Source side heat exchanger										
Pressure drop	kPa	60	51	53	58	58	41	41	44	45
Water flow	m³/h	7.55	10.27	11.4	13.12	15.27	18.33	22.25	26.29	28.32
Dimension (mm)	L	1260	1520	1520	1520	1520	1750	1750	1750	1750
	W	845	960	960	960	960	900	900	900	900
	H	1050	1078	1078	1078	1310	1500	1500	1500	1500
Sound pressure level***	dB(A)	63	67	69	70	72	74	77	77	77
Net weight	kg	330	450	460	540	540	560	590	630	650

Performance values refer to the following conditions:
* Source side water inlet/outlet temperature 18ºC/29ºC, user side water inlet/outlet temperature 12ºC/7ºC.
** Source side water inlet/outlet temperature 15ºC/7ºC, user side water inlet/outlet temperature 40ºC/45ºC.
*** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in an open field.

Water Cooled Modular Scroll Chiller & Heat Pump

Cooling capacity from 90 to 160 kW
Heating capacity from 82 to 168 kW

Water to Water Unit

Indoor installation
Heat recovery rate: 20%-25%

Functions

Cooling C&H Heat Recovery

Characteristics

● The master module can work independently or together with up to 7 slave modules, flexible design, stable performance, easy maintenance

● Reusable: using solar energy stored in earth as cooling & heating source

● Panels and frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents
3-phase scroll type compressor, with built-in thermal overload cut-out and crankcase heater, mounted on rubber vibration dampers

● Shell and tube type evaporator, factory insulated with flexible close cell material

● Shell and tube dry expansion type condenser, factory insulated with flexible close cell material

● The refrigerant circuit is complete with filter drier, direct expansion valve, high and low pressure switch

● Acting as multi-function unit such as cooling, heating, with heat recovery function producing hot water for domestic use. LCD display as standard

● Automatic operation dramatically reducing maintenance cost thanks to reliable microprocessor system

● Wide application as hotel, apartment, villa, factory, shopping center, office building, school, etc.

Electric Panel

Consists of:
- ♦ Compressor breaker
- ♦ Compressor contactor
- ♦ Phase sequence relay
- ♦ Control circuit breaker
- ♦ Microprocessor with function display

Optional

- ♦ Desuperheater as optional
- ♦ Electronic controller with BMS system
- ♦ Plate heat exchanger
- ♦ Sound insulation cabinet
- ♦ Channel steel basement

Nomenclature

L WW H R S C 90 D MM
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

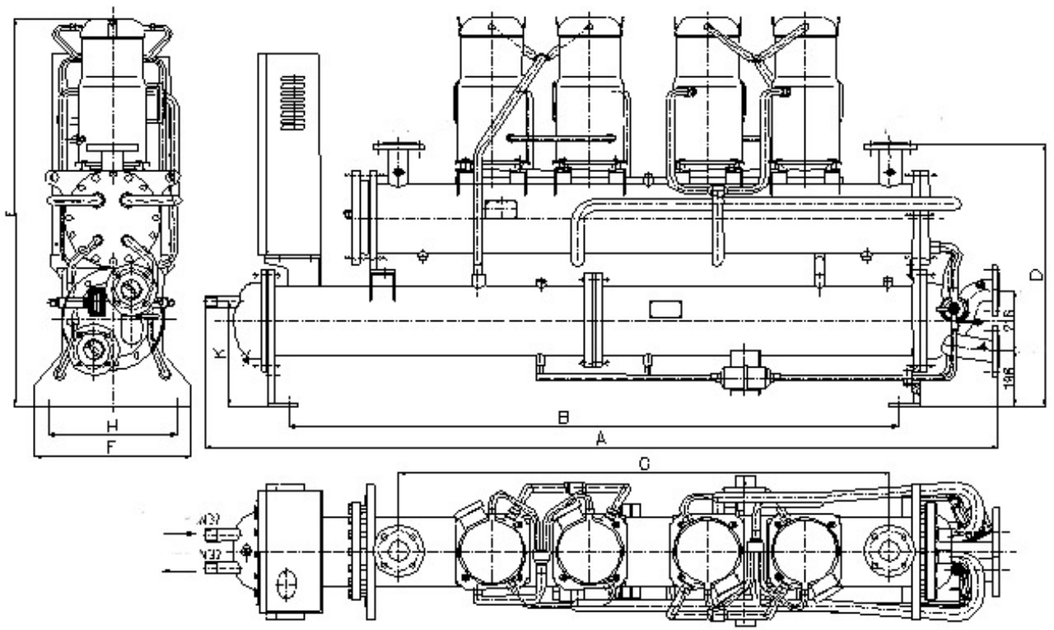
① L: Lark air product
② Unit type
WA: Water to Air
WW: Water to Water
③ C: Cooling only
H: Heat pump
④ Heat recovery type
--: Without heat recovery
R: With heat recovery
⑤ Heat exchanger
T: Tube in tube type
P: Plate type
S: Shell and tube type
⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Model
⑧ Project condition
D: Underground water loops
--: Underground water
⑨ Modular type
MM: Modular master
MS: Modular slave

Technical Data R407C

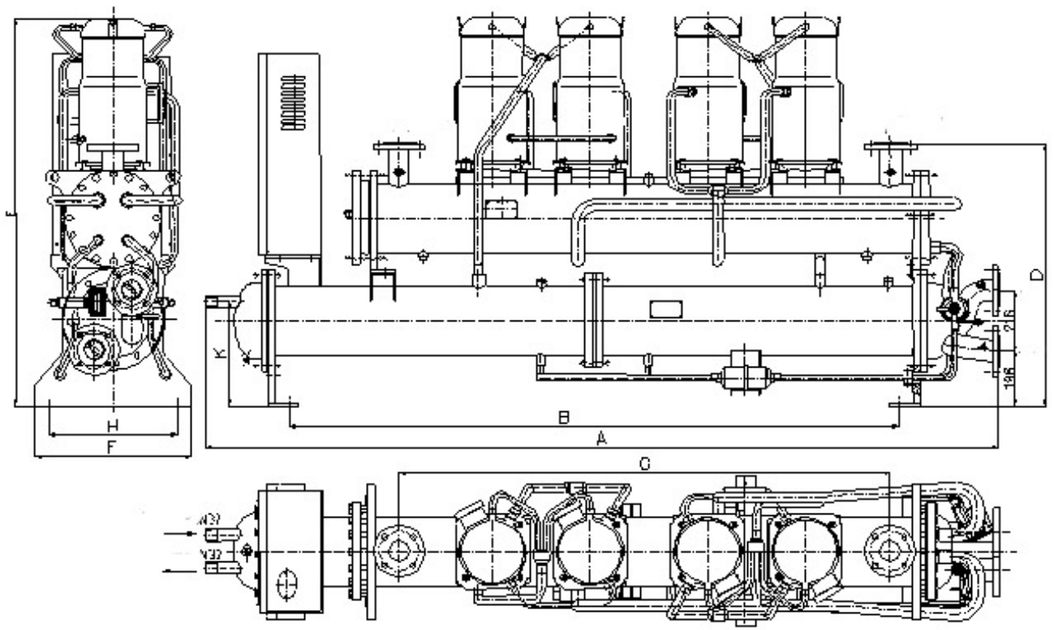
Model	Unit	90D	130D	160D	90	130	160
Nominal cooling capacity*	kW	90	130	160	90	130	160
Nominal heating capacity**	kW	82	125	156	95	139	168
Heat recovery capacity	kW	18.0	26.0	32.0	18.0	26.0	32.0
Heat recovery water flow	m³/h	3.1	4.5	5.5	3.1	4.5	5.5
Heat recovery pipe connection	mm	DN32					
Hermetic compressor							
Qty/refrigerant circuit	Nr.	2/2	3/3	4/4	2/2	3/3	4/4
Cooling power input*	kW	16.7	24.1	29.6	16.7	24.1	30.8
Heating power input**	kW	19.3	29.4	36.3	19.3	28.5	41.2
Evaporator							
Pressure drop	kPa	50	56	58	50	56	58
Water flow	m³/h	15.5	22.4	27.5	15.5	22.4	27.5
Connect pipe	mm	DN65					
Condenser							
Pressure drop	kPa	53	58	62	40	45	50
Water flow	m³/h	18.3	26.5	32.6	8.3	12.0	14.8
Connect pipe	mm	DN65					
Overall dimensions for standard unit							
Length	mm	2200	2200	2735	2200	2610	3190
Width	mm	480	480	560	600	600	600
Height	mm	1380	1380	1400	1480	1480	1480
Overall dimensions for heat recovery unit							
Length	mm	2300	2300	2835	2300	2710	3290
Width	mm	480	480	560	600	600	600
Height	mm	1380	1380	1400	1480	1480	1480
RD type Net weight	kg	760	920	1160	760	920	1160
D type Net weight	kg	680	830	1080	680	830	1080
Sound pressure level***	dB(A)	76	76	76	76	76	76

Performance values refer to the following conditions:
* Source side water inlet/outlet temperature 18ºC/29ºC, user side water inlet/outlet temperature 12ºC/7ºC, for underground water.
Source side water inlet/outlet temperature 25ºC/30ºC, user side water inlet/outlet temperature 12ºC/7ºC, for underground water loops.
** Source side water inlet/outlet temperature 15ºC/8ºC, user side water inlet/outlet temperature 40ºC/45ºC, for underground water.
Source side water inlet/outlet temperature 8ºC/4ºC, user side water inlet/outlet temperature 40ºC/45ºC, for underground water loops.
*** Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in a clear field.

Overall Dimensions



Code \ Model	90D	130D	160D	90	130	160
A	2200	2200	2735	2200	2610	3190
B	1630	1630	2180	1630	2055	2635
D	940	985	985	980	980	980
E	1380	1380	1400	1480	1480	1480
F	480	480	560	600	600	600
G	1290	1290	1760	1290	1760	2250
H	380	380	460	480	460	460
K	375	375	385	390	400	400



Code \ Model	R90D	R130D	R160D	R90	R130	R160
A	2300	2300	2835	2300	2710	3290
B	1630	1630	2180	1630	2055	2635
D	940	985	985	1000	1000	1000
E	1380	1380	1400	1480	1480	1480
F	480	480	560	600	600	600
G	1290	1290	1760	1290	1760	2250
H	380	380	460	480	460	460
K	375	375	385	390	400	400

Water Cooled Screw Chiller

Cooling capacity from 130 to 2500 kW

Water Cooled Screw Chiller

Indoor installation

Functions

Cooling C&H Heat Recovery

Characteristics

● 29 sizes available ranging from 130 kW to 2500 kW cooling capacity.

● Acting as multi-function unit such as cooling, heating, sanitary hot water separately or simultaneously.

● Wide application as hotel, apartment, villa, factory, shopping center, office building, school, etc.

● Semi- hermetic screw compressor for the whole range. Each compressor is equipped with a crankcase heater and a built-in electronic protection with temperature sensor located directly in the motor winding and on the discharge line.

● The refrigerant circuit is complete with sight glass, filter drier, high and low pressure gauges, solenoid valve, electronic expansion valve, high and low pressure switch.

● Shell and tube dry expansion type condenser, factory insulated with flexible close cell material.

● Shell and tube evaporator, higher efficiency less water consumption, easy maintenance and cleaning, factory insulated with flexible close cell material.

● The electric panel consists of compressor breaker, compressor contactor, phase sequence relay, control circuit breaker, microprocessor control with function display.

● LCD display, touch screen control panel as standard.

● Automatic operation dramatically reducing maintenance cost thanks to reliable microprocessor system.

● An infinitely variable capacity control system that is capable of exactly matching the demand requirement of the system is to be supplied. This system is to provide precise and stable control of supply water temperature over the complete range of operating conditions.

OPTIONAL

♦ Desuperheater as optional.
♦ Electronic controller with BMS system.

Nomenclature

L WW C R S B 530
① ② ③ ④ ⑤ ⑥ ⑦

① L: Lark air product
② Unit type
WA: Water to Air
WW: Water to Water

③ C: Cooling only
H: Heat pump
④ Heat recovery type
--: Without heat recovery
R: With heat recovery
⑤ Heat exchanger
T: Tube in tube type
P: Plate type
S: Shell and tube type

⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Model

Technical Data R134a

Model	Unit	130	170	200	240	260	280	310	360	380	420
Cooling capacity*	kW	130	170	200	240	260	280	310	360	380	420
Power supply	380-415V/3Ph/50Hz										
Compressor											
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Cooling power input*	kW	26	33	39	47	51	55	61	71	75	83
Energy adjustment steps	step	25% - 100%									
Max. current for wiring	A	69	87	108	128	154	158	161	165	175	185
Refrigerant charge	kg	32	39	46	55	60	64	68	85	100	107
Evaporator											
Water side pressure drop	kPa	42	45	45	45	45	46	46	46	47	46
Pipe size	mm	DN65	DN80	DN100	DN100	DN100	DN100	DN100	DN125	DN125	DN125
Water flow rate in cooling*	m^3/h	22	29	34	41	45	48	53	62	65	72
Condenser											
Water side pressure drop	kPa	42	45	44	44	45	45	44	44	44	42
Pipe size	mm	DN80	DN80	DN100	DN100	DN100	DN100	DN100	DN125	DN125	DN125
Water flow rate in cooling*	m^3/h	27	35	41	49	54	58	64	74	78	86
Dimensions											
Length	mm	2685	2720	2660	2880	2870	3170	3270	3170	3180	3180
Width	mm	1090	1115	1175	1125	1125	1125	1230	1200	1285	1285
Height	mm	1625	1555	1650	1645	1685	1685	1685	1685	1805	1805
Net weight	kg	1600	1800	1900	2000	2100	2200	2250	2400	3000	3100
Noise level**	dB(A)	68	69	69	70	70	72	73	73	73	73

Model	Unit	480	530	610	680	710	760	860	960	1000	1120
Cooling capacity*	kW	480	530	610	680	710	760	860	960	1000	1120
Power supply	380-415V/3Ph/50Hz										
Compressor											
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2
Cooling power input*	kW	94	104	120	134	140	150	169	189	197	220
Energy adjustment steps	step	25% - 100%				12.5% - 100%					
Max. current for wiring	A	258	292	302	335	2×165	2×175	2×175	2×185	2×246	2×258
Refrigerant charge	kg	126	142	160	167	171	199	210	220	242	261
Evaporator											
Water side pressure drop	kPa	46	46	46	47	47	46	47	46	46	46
Pipe size	mm	DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN200	DN200	DN200
Water flow rate in cooling*	m^3/h	83	91	105	117	122	131	148	165	172	193
Condenser											
Water side pressure drop	kPa	42	42	44	42	44	42	44	42	44	44
Pipe size	mm	DN125	DN125	DN125	DN150	2×DN125	2×DN125	2×DN125	2×DN125	2×DN125	2×DN150
Water flow rate in cooling*	m^3/h	99	109	126	140	146	156	177	198	206	231
Dimensions											
Length	mm	3505	3505	3505	3520	4060	4505	4505	4505	4660	4660
Width	mm	1280	1315	1375	1380	1415	1415	1415	1415	1460	1460
Height	mm	1970	1990	1980	1980	1975	2000	2000	2000	2090	2090
Net weight	kg	3500	3800	4000	4100	4210	4400	4740	5600	6600	6800
Noise level**	dB(A)	74	74	74	73	74	74	74	74	74	74

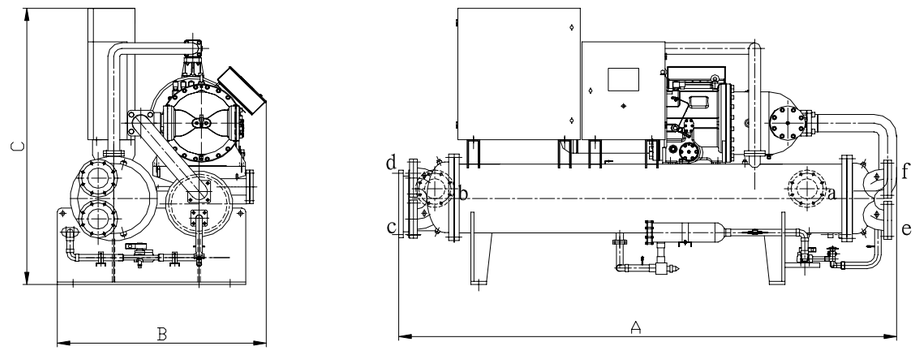
Technical Data

Model	Unit	1200	1250	1360	1470	1720	1840	2000	2350	2500
Cooling capacity*	kW	1200	1250	1360	1470	1720	1840	2000	2350	2500
Power supply		380-415V/3Ph/50Hz								
Compressor										
Qty/refrigerant circuit	Nr.	2/2	2/2	2/2	4/4	4/4	4/4	4/4	4/4	4/4
Cooling power input*	kW	236	246	268	289	339	362	394	463	492
Energy adjustment steps	step	12.5% - 100%			6.25% - 100%					
Max. current for wiring	A	2×292	2×302	2×315	4×175	4×185	4×246	4×258	4×258	4×292
Refrigerant charge	kg	295	302	327	338	393	430	453	494	537
Evaporator										
Water side pressure drop	kPa	46	46	46	45	45	46	46	47	47
Pipe size	mm	DN200	DN200	DN200	2×DN150	2×DN150	2×DN200	2×DN200	2×DN200	2×DN200
Water flow rate in cooling*	m^3/h	206	215	234	253	296	316	344	404	430
Condenser										
Water side pressure drop	kPa	44	42	45	52	52	52	52	52	52
Pipe size	mm	2×DN150	2×DN150	2×DN150	2×DN200	2×DN200	2×DN200	2×DN200	2×DN200	2×DN200
Water flow rate in cooling*	m^3/h	247	257	280	303	354	379	412	484	515
Dimensions										
Length	mm	4660	4660	4660	4600	4650	4690	4600	4780	4800
Width	mm	1585	1585	1585	2250	2270	2300	2450	2450	2450
Height	mm	2215	2215	2240	2350	2380	2410	2460	2470	2500
Net weight	kg	7000	7400	8000	8800	9000	9800	11600	12300	13000
Noise level**	dB(A)	74	74	75	76	80	80	81	81	81

* Performance values refer to the following conditions:
  Condenser water inlet/outlet temperature: 30ºC/35ºC.
  Evaporator water inlet/outlet temperature: 12ºC/7ºC.
** Noise level measured in free field condition at distance of 1 meter.

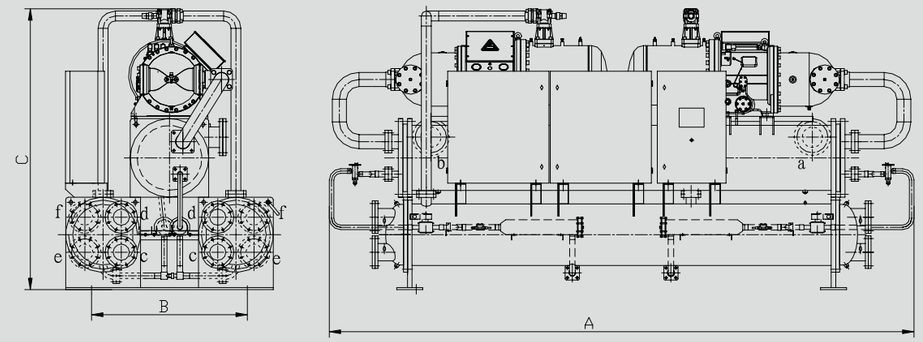
Overall Dimensions

Mod.LWWCSB 130 ~ 680



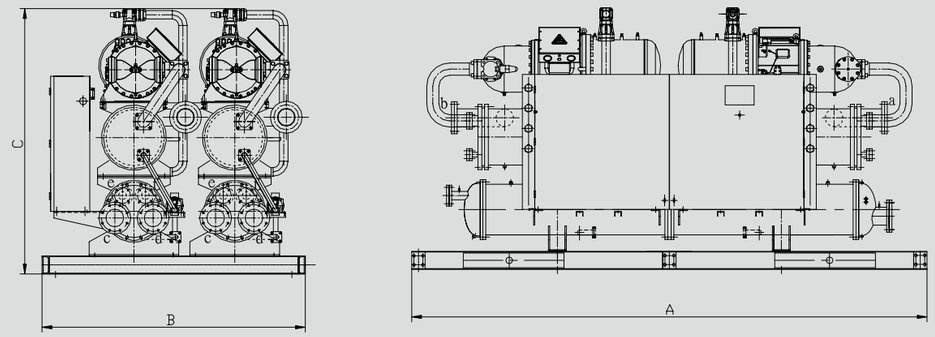
Model	A	B	C	Model	A	B	C
130	2685	1090	1625	**360**	3170	1200	1685
170	2720	1115	1555	**380**	3180	1285	1805
200	2660	1175	1650	**420**	3180	1285	1805
240	2880	1125	1645	**480**	3505	1280	1970
260	2870	1125	1685	**530**	3505	1315	1990
280	3170	1125	1685	**610**	3505	1375	1980
310	3270	1230	1685	**680**	3520	1380	1980

Mod.LWWCSB 710 ~ 1360



Model	A	B	C	Model	A	B	C
710	4060	1415	1975	**1120**	4660	1460	2090
760	4505	1415	2000	**1200**	4660	1585	2215
860	4505	1415	2000	**1250**	4660	1585	2215
960	4505	1415	2000	**1360**	4660	1585	2240
1000	4660	1460	2090				

Mod.LWWCSB 1470 ~ 2500



Model	A	B	C	Model	A	B	C
1470	4600	2250	2350	**2000**	4600	2450	2460
1720	4650	2270	2380	**2350**	4780	2450	2470
1840	4690	2300	2410	**2500**	4800	2450	2500

Ground Source Heat Pump

Cooling capacity from 130 to 2500 kW
Heating capacity from 127 to 2450 kW

Ground Source Heat Pump

Indoor installation

Functions

Cooling C&H Heat Recovery

Characteristics

● 29 sizes available ranging from 127 kW to 2450 kW heating capacity.

● Reusable: using solar energy stored in earth as cooling & heating source.

● Great environmental and economic benefit: no boiler or cooling tower; less space, less CO_2 and less initial investment.

● Acting as multi-function unit such as cooling, heating, sanitary hot water separately or simultaneously.

● Wide application as hotel, apartment, villa, factory, shopping center, office building, school, etc.

● Semi-hermetic screw compressor for mod.130÷2500. Each compressor is equipped with a crankcase heater and a thermal overload cut-out; the screw compressor is also complete with a built-in electronic protection with temperature sensor located directly in the motor winding and on the discharge line.

● The refrigerant circuit is complete with sight glass, filter drier, high and low pressure gauges, solenoid valve, direct expansion valve, high and low pressure switch.

● Shell and tube dry expansion type condenser, factory insulated with flexible close cell material.
Shell and tube type evaporator, factory insulated with flexible close cell material.

● The electric panel consists of compressor breaker, compressor contactor, phase sequence relay, control circuit breaker, microprocessor control with function display.

● LCD display, touch screen control panel as standard. Automatic operation dramatically reducing maintenance cost thanks to reliable microprocessor system.

● For the units with semi-hermetic screw compressor, an infinitely variable capacity control system that is capable of exactly matching the demand requirement of the system is to be supplied. This system is to provide precise and stable control of supply water temperature over the complete range of operating conditions.

OPTIONAL

- ♦ Electronic expansion valve.
- ♦ Desuperheater as optional.
- ♦ Electronic controller with BMS system.
- ♦ Low noise compressor cabinet or outside full cover
- ♦ Channel Steel base.

Nomenclature

L WW H R S B 530
① ② ③ ④ ⑤ ⑥ ⑦

① L: Lark air product
② Unit type
WA: Water to Air
WW: Water to Water

③ C: Cooling only
H: Heat pump
④ Heat recovery type
--: Without heat recovery
R: With heat recovery
⑤ Heat exchanger
T: Tube in tube type
P: Plate type
S: Shell and tube type

⑥ Refrigerant type
--: R22
A: R410a
B: R134a
C: R407C
⑦ Model

Technical Data R134a

Model	Unit	130	170	200	240	260	280	310	360	380	420
Cooling capacity*	kW	130	170	200	240	260	280	310	360	380	420
Heating capacity*	kW	127	167	196	235	255	274	304	353	372	412
Power supply	380-415V/3Ph/50Hz										
Compressor											
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Cooling power input*	kW	24	31	37	44	48	52	57	67	70	78
Heating power input*	kW	43	56	66	80	86	93	103	120	126	140
Energy adjustment steps	step	25% - 100%									
Max. current for wiring	A	87	108	128	165	165	165	165	185	185	258
Refrigerant charge	kg	23	30	36	43	46	50	55	64	68	75
Evaporator											
Water side pressure drop	kPa	42	45	45	45	45	46	46	46	47	46
Pipe size	mm	DN65	DN80	DN100	DN100	DN100	DN100	DN100	DN125	DN125	DN125
Water flow rate in cooling*	m^3/h	22	29	34	41	45	48	53	62	65	72
Water flow rate in heating*	m^3/h	9	12	14	17	18	19	22	25	26	29
Condenser											
Water side pressure drop	kPa	42	45	44	44	45	45	44	44	44	42
Pipe size	mm	DN80	DN80	DN100	DN100	DN100	DN100	DN100	DN125	DN125	DN125
Water flow rate in cooling*	m^3/h	12	16	19	22	24	26	29	33	35	39
Water flow rate in heating*	m^3/h	22	29	34	40	44	47	52	61	64	71
Dimensions											
Length	mm	2635	2760	2740	2880	2870	2870	2970	3170	3280	3280
Width	mm	1090	1115	1175	1125	1125	1125	1230	1200	1285	1285
Height	mm	1625	1555	1650	1645	1685	1685	1685	1685	1805	1805
Net weight	kg	1600	1800	1900	2000	2100	2200	2250	2400	3000	3100
Noise level**	dB(A)	68	69	69	70	70	72	73	73	73	73

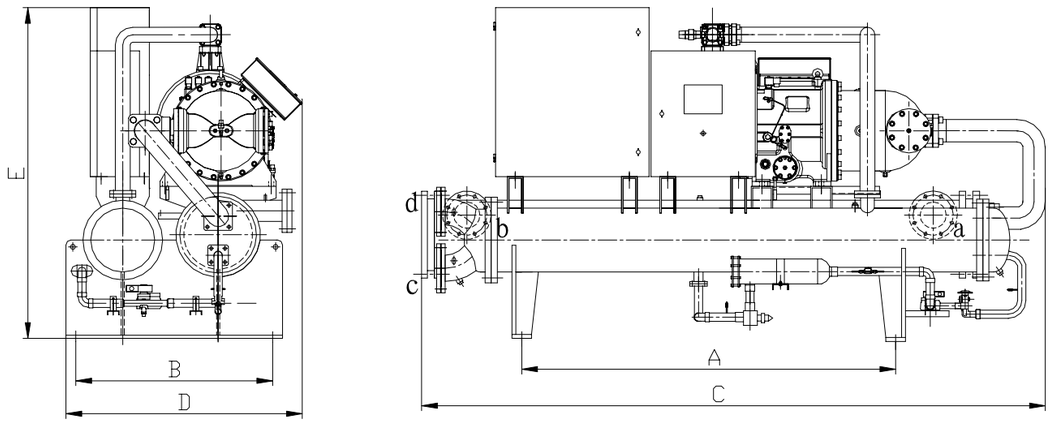
Model	Unit	480	530	610	680	710	760	860	960	1000	1120
Cooling capacity*	kW	480	530	610	680	710	760	860	960	1000	1120
Heating capacity*	kW	470	519	598	666	696	745	843	941	980	1098
Power supply	380-415V/3Ph/50Hz										
Compressor											
Qty/refrigerant circuit	Nr.	1/1	1/1	1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2
Cooling power input*	kW	89	98	113	126	131	141	159	178	185	207
Heating power input*	kW	159	176	203	226	236	252	286	319	332	372
Energy adjustment steps	step	25% - 100%				12.5% - 100%					
Max. current for wiring	A	302	302	357	378	2×185	2×185	2×258	2×258	2×302	2×302
Refrigerant charge	kg	85	94	108	121	126	135	153	171	178	199
Evaporator											
Water side pressure drop	kPa	46	46	46	47	47	46	47	46	46	46
Pipe size	mm	DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN200	DN200	DN200
Water flow rate in cooling*	m^3/h	83	91	105	117	122	131	148	165	172	193
Water flow rate in heating*	m^3/h	33	37	42	47	49	53	60	67	70	78
Condenser											
Water side pressure drop	kPa	42	42	44	42	44	42	44	42	44	44
Pipe size	mm	DN125	DN125	DN125	DN150	DN125	DN125	DN125	DN125	DN125	DN150
Water flow rate in cooling*	m^3/h	44	49	57	63	66	70	80	89	93	104
Water flow rate in heating*	m^3/h	81	89	103	115	120	128	145	162	169	189
Dimensions											
Length	mm	3505	3505	3505	3520	4005	4505	4505	4505	4560	4560
Width	mm	1280	1315	1375	1380	1415	1415	1415	1415	1460	1460
Height	mm	1970	1990	1980	1980	1975	2000	2000	2000	2090	2090
Net weight	kg	3500	3800	4000	4100	4210	4400	4740	5600	6600	6800
Noise level**	dB(A)	74	74	74	73	74	74	74	74	74	74

Model	Unit	1200	1250	1360	1470	1720	1840	2000	2350	2500
Cooling capacity*	kW	1200	1250	1360	1470	1720	1840	2000	2350	2500
Heating capacity*	kW	1176	1225	1333	1441	1686	1803	1960	2303	2450
Power supply	380-415V/3Ph/50Hz									
Compressor										
Qty/refrigerant circuit	Nr.	2/2	2/2	2/2	4/4	4/4	4/4	4/4	4/4	4/4
Cooling power input*	kW	222	231	252	272	319	341	370	435	463
Heating power input*	kW	399	415	452	488	571	611	664	781	831
Energy adjustment steps	step	12.5% - 100%			6.25% - 100%					
Max. current for wiring	A	2×357	2×357	2×378	4×185	4×258	4×258	4×302	4×357	4×357
Refrigerant charge	kg	213	222	242	261	306	327	356	418	444
Evaporator										
Water side pressure drop	kPa	46	46	46	45	45	46	46	47	47
Pipe size	mm	DN200	DN200	DN200	2×DN150	2×DN150	2×DN200	2×DN200	2×DN200	2×DN200
Water flow rate in cooling*	m^3/h	206	215	234	253	296	316	344	404	430
Water flow rate in heating*	m^3/h	84	87	95	102	120	128	139	164	174
Condenser										
Water side pressure drop	kPa	44	42	45	52	52	52	52	52	52
Pipe size	mm	DN150	DN150	DN150	2×DN200	2×DN200	2×DN200	2×DN200	2×DN200	2×DN200
Water flow rate in cooling*	m^3/h	111	116	126	136	159	170	185	218	232
Water flow rate in heating*	m^3/h	202	211	229	248	290	310	337	396	421
Dimensions										
Length	mm	4660	4660	4660	4600	4650	4690	4730	4780	4800
Width	mm	1585	1585	1585	2250	2270	2300	2340	2380	2400
Height	mm	2215	2215	2240	2350	2380	2410	2450	2470	2500
Net weight	kg	7000	7400	8000	8800	9000	9800	11600	12300	13000
Noise level**	dB(A)	74	74	76	80	80	81	81	82	82

* Performance values refer to the following conditions:
Cooling: condenser water inlet/outlet temperature: 18ºC/29ºC, evaporator water inlet/outlet temperature: 12ºC/7ºC.
Heating: condenser water inlet/outlet temperature: 55ºC/60ºC, evaporator water inlet/outlet temperature: 15ºC/7ºC.
** Noise level measured in free field condition at distance of 1 meter.

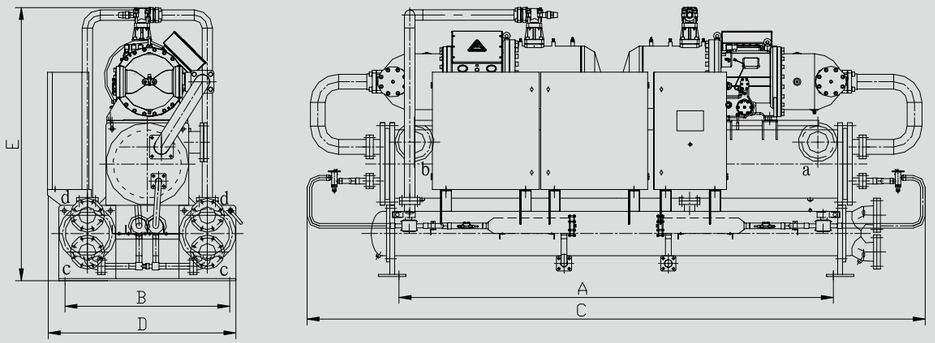
Overall Dimensions

Mod. LWWHSB 130 ~ 680



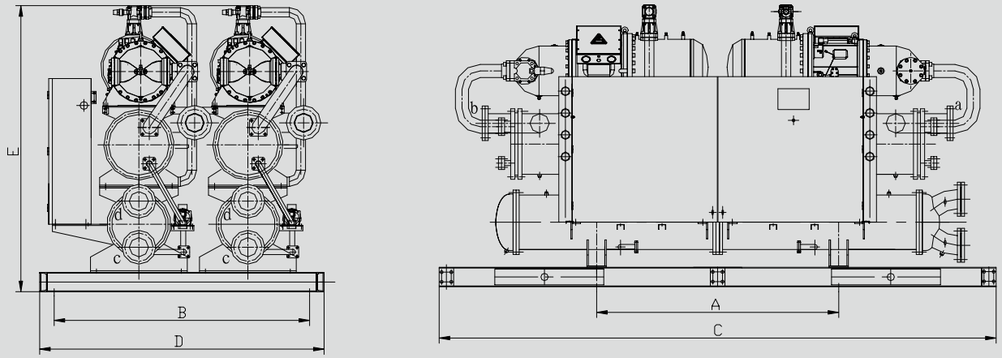
Model	A	B	C	D	E	Model	A	B	C	D	E
130	1450	900	2635	1090	1625	**360**	1900	1000	3170	1200	1685
170	1600	1000	2760	1115	1555	**380**	2000	1000	3280	1285	1805
200	1460	1000	2740	1175	1650	**420**	2000	1000	3280	1285	1805
240	1650	1000	2880	1125	1645	**480**	2000	1100	3505	1280	1970
260	1650	1000	2870	1125	1685	**530**	2050	1100	3505	1315	1990
280	1650	1000	2870	1125	1685	**610**	2050	1200	3505	1375	1980
310	1650	1000	2970	1230	1685	**680**	2050	1200	3520	1380	1980

Mod. LWWHSB710 ~ 1360



Model	A	B	C	D	E	Model	A	B	C	D	E
710	2665	1200	4005	1415	1975	**1120**	3365	1200	4560	1460	2090
760	3165	1200	4505	1415	2000	**1200**	3465	1300	4660	1585	2215
860	3165	1200	4505	1415	2000	**1250**	3465	1300	4660	1585	2215
960	3165	1200	4505	1415	2000	**1360**	3465	1300	4660	1585	2240
1000	3365	1200	4560	1460	2090						

Mod. LWWHSB 1470 ~ 2500



Model	A	B	C	D	E	Model	A	B	C	D	E
1470	2000	2050	4600	2250	2350	**2000**	2000	2160	4730	2340	2450
1720	2000	2060	4650	2270	2380	**2350**	2000	2160	4780	2380	2470
1840	2000	2060	4690	2300	2410	**2500**	2000	2160	4800	2400	2500

Air Handling Unit

Introduction

Lark Air Handling Units(AHU) are designed with high quality and efficiency to meet the most demanding requirements. They provide cooling, heating and ventilation to conditioned space. These units are suitable for hotels, hospitals, large halls, banks, super markets and other applications.

The advantage of modular design

Lark Air Handling Unit are manufactured in modular sections, where each module contains one or more components. Several modules compose a unit.
The whole air handling unit is shipped completely assembled as standard but partially assembled units can be shipped as an option.
The flexible modular design allows various section arrangements according to the task requirement.
1) Wide capacity range (1500m³/h to 40000m³/h). Larger capacities can be made as special units.
2) Ideal selection for controlling the indoor air quality so that the right degree of filtration, humidification, cooling, heating and also noise level can be achieved.
3) High efficiency centrifugal fans, excellent vibration absorption and high efficient heat exchangers are integrated to ensure reliable performance of the unit.
4) Air tight construction.
5) Rugged base frame adds strengths to the unit rigged construction.
6) High efficiency with high quality materials and components.
7) Long life with easy inspection and maintenance through access doors and access panels.
8) Different kinds of accessories and options can be selected and added to this modular design.
9) Modular design unit is suited to match application requirements.

Outstanding features

Design Versatility
Unit capacities in AHU have a wide range depending on the design requirements, also units can be constructed almost in any shape and dimensions to meet client's restricted spaces in mechanical room, roof etc.

Structure quality

All frames are made of high quality extruded metal profile, and the frame rigidity is achieved through the use of a special construction. This rigid structure supports the whole unit to prevent bends due to external loads.

Service ability

The unit construction facilitates easy accessibility for operators to maintain and service. This accessibility is reflected in the number of doors provided for the unit and easy removing panels.
This serviceability will positively affect the unit expected life.

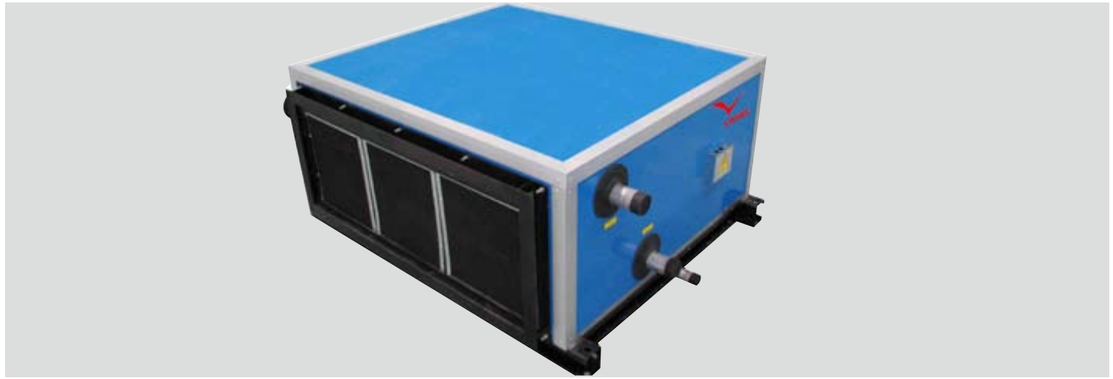
Options diversity

There is a vast variety of filtration, cooling, heating fan, and controls options that can be provided for AHU series,which enhance our unit's performance.

Instruction of model

L KC 12 W H Z S

- The filter extractive direction, "S": Top, "X": Down, "S": Side
- Connecting pipe direction, "Z": Left, "Y": Right
- "H": Return air, "X": Fresh air
- "W": Horizontal, "L": Vertical, "D": Ceiling
- 12: Air flow (12×1000 m³/h)
- KC: Air handling unit
- L: Lark product

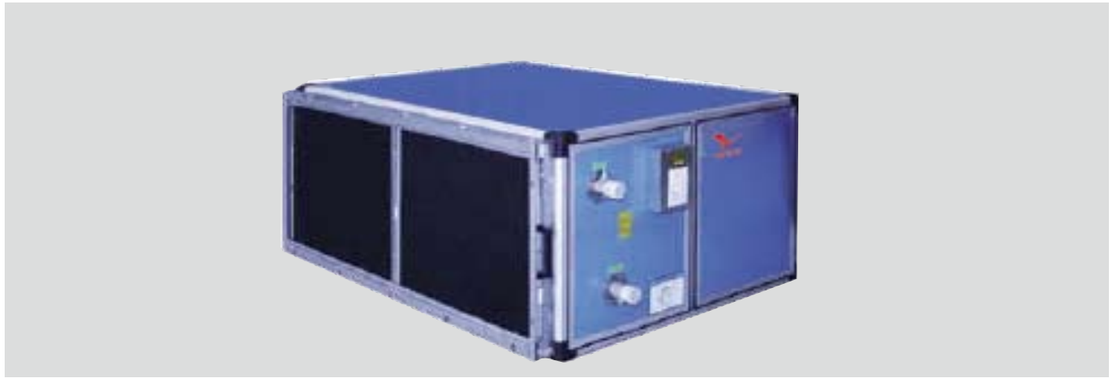


Ceiling Type Air Handling Unit Performance Parameters(Return Air)

Product type	Rated air volume	Rated cooling capacity		Rated heating capacity		External static pressure		Motor power	Water flow		Water resistance		Noise	Weight		Dimension
		4R	6R	4R	6R	4R	6R		4R	6R	4R	6R		4R	6R	
	m³/h	kW		kW		Pa		kW	L/s		kPa		dB(A)	kg		mm
LKCD1.5A	1500	8.1	11.1	12.1	16.5	180	130	0.32	0.39	0.53	3.9	7.6	55	74	77	900×750×550
LKCD2A	2000	11.1	14.9	16.5	22.2	200	150	0.32	0.53	0.71	4.6	8.6	56	80	84	940×800×600
LKCD2.5A	2500	13.2	18.2	19.7	27.1	230	180	0.55	0.63	0.87	7.4	13.8	57	93	97	940×950×600
LKCD3A	3000	15.2	22.2	22.6	33.1	190	140	0.55	0.73	1.06	8.7	18.9	58	101	106	940×1090×600
LKCD4A	4000	21.3	29.4	31.7	43.8	250	200	1.1	1.02	1.4	12.7	28	59	139	146	1000×1300×640
LKCD4B	4000	24.2	31.7	36.1	47.2	200	150	0.32×2	1.16	1.51	18.8	14.1	59	131	137	940×1360×600
LKCD5A	5000	32.9	37.9	49	56.5	280	280	1.5	1.57	1.81	13.2	25.5	60	165	173	1100×1420×680
LKCD5B	5000	31.9	39.8	47.5	59.3	230	180	0.55×2	1.52	1.9	22.7	21.3	60	152	161	940×1650×600
LKCD6A	6000	33.6	45.7	50.1	68.1	250	200	1.5	1.6	2.18	11.5	20.7	61	192	202	1150×1500×750
LKCD6B	6000	36.6	48	54.5	71.5	190	140	0.55×2	1.75	2.29	24.3	19.5	61	182	193	940×1920×600
LKCD7A	7000	40.2	53.9	59.9	80.3	200	200	1.5	1.92	2.57	13.8	22.7	62	214	226	1250×1550×820
LKCD7B	7000	43.5	56.5	64.8	84.2	200	200	1.1×2	2.08	2.7	14.8	25.8	62	256	268	1100×2100×640
LKCD8A	8000	48.1	63.5	71.7	94.6	250	250	2.2	2.3	3.03	14.8	30.7	62	244	256	1250×1720×820
LKCD8B	8000	51.5	65.4	76.7	97.4	200	200	1.1×2	2.46	3.12	17.8	34.8	62	272	285	1100×2350×640
LKCD9A	9000	52.8	70.8	78.7	106	300	300	3	2.52	3.38	9.5	18.4	63	265	279	1300×1720×890
LKCD9B	9000	57.5	73.2	85.7	109	200	200	1.1×2	2.74	3.49	18.8	39.8	63	300	314	1150×2350×680
LKCD10A	10000	59.9	78.9	89.3	118	350	350	3	2.86	3.77	11.2	17.7	64	278	295	1300×1900×890
LKCD10B	10000	66.9	83.7	99.7	125	300	300	1.5×2	3.19	4	26.8	48.5	64	312	329	1150×2450×700
LKCD12A	12000	72.8	95.9	109	143	400	400	4	3.47	4.58	14.7	21.2	65	335	354	1400×1900×1000
LKCD12B	12000	79.3	100	118	149	350	350	2.2×2	3.79	4.77	30.8	48.8	65	366	384	1200×2550×780
LKCD14A	14000	87.4	113	130	168	400	400	5.5	4.17	5.39	14.9	26.7	65	383	405	1400×2050×1050
LKCD14B	14000	92.3	117	138	174	350	350	2.2×2	4.41	5.58	29.2	58.2	65	397	419	1500×2550×880

Performance values refer to the following conditions:

- Cooling capacity is measured under the condition:
  Air inlet temperature DB 27°C/WB 19.5°C, water inlet temperature 7°C, water temperature difference 5°C.
- Heating capacity is measured under the condition:
  Air inlet temperature DB 21°C, water inlet temperature 60°C.



Horizontal Type Air Handling Unit Performance Parameters(Return Air)

Product type	Rated air volume	Rated cooling capacity		Rated heating capacity		External static pressure		Motor power	Water flow		Water resistance		Noise	Weight		Dimension
		4R	6R	4R	6R	4R	6R		4R	6R	4R	6R		4R	6R	L×W×H
	m^3/h	kW		kW		Pa		kW	L/s		kPa		dB(A)	kg		mm
LKCW2A	2000	11.1	14.9	16.5	22.2	200	150	0.32	0.53	0.71	4.6	8.6	56	81	85	940×800×620
LKCW3A	3000	15.2	22.2	22.6	33.1	190	140	0.55	0.73	1.06	8.7	18.9	58	102	107	940×1090×620
LKCW4A	4000	21.3	29.4	31.7	43.8	250	200	1.1	1.02	1.4	12.7	28	59	142	149	1000×1300×680
LKCW5A	5000	32.9	37.9	49	56.5	280	280	1.5	1.57	1.81	13.2	28.5	60	169	178	1100×1420×720
LKCW6A	6000	33.6	45.7	50.1	68.1	250	200	1.5	1.6	2.18	11.5	20.7	61	196	206	1150×1500×770
LKCW7A	7000	40.2	53.9	59.9	80.3	200	200	1.5	1.92	2.57	13.8	22.7	62	224	236	1250×1550×880
LKCW8A	8000	48.1	63.5	71.7	94.6	250	250	2.2	2.3	3.03	14.8	30.7	62	251	266	1250×1720×880
LKCW9A	9000	52.8	70.8	78.7	106	300	300	3	2.52	3.38	9.5	18.4	63	272	286	1350×1720×920
LKCW10A	10000	59.9	78.9	89.3	118	300	300	3	2.86	3.77	11.2	17.7	64	286	303	1350×1900×920
LKCW12A	12000	72.8	95.9	109	143	350	350	4	3.47	4.58	14.7	21.2	65	347	367	1450×1900×1030
LKCW14A	14000	87.4	113	130	168	400	400	5.5	4.17	5.39	14.9	26.7	65	390	412	1450×2050×1070
LKCW16A	16000	102	131	152	195	400	400	5.5	4.85	6.27	18.9	36.8	66	516	553	1650×2000×1230
LKCW18A	18000	115	147	171	219	400	400	5.5	5.48	7.05	21.3	39.7	67	538	580	1650×2200×1230
LKCW20A	20000	128	164	191	244	400	400	7.5	6.12	7.83	23.1	38.7	68	604	653	1800×2200×1350
LKCW25A	25000	162	207	241	308	400	400	7.5	7.75	9.9	32.1	40.5	68	732	793	1850×2280×1580
LKCW30A	30000	195	248	291	370	400	400	11	9.33	11.9	20.9	43.8	70	836	908	1850×2480×1700
LKCW35A	35000	233	296	347	441	450	450	15	11.2	14.1	33.1	68.8	71	980	1063	2000×2830×1700
LKCW40A	40000	266	340	396	507	450	450	15	12.7	16.3	41.3	67.8	72	1027	1122	2000×3050×1780

Performance values refer to the following conditions:

- Cooling capacity is measured under the condition:
  Air inlet temperature DB 27°C/WB 19.5°C, water inlet temperature 7°C, water temperature difference 5°C.
- Heating capacity is measured under the condition:
  Air inlet temperature DB 21°C, water inlet temperature 60°C.

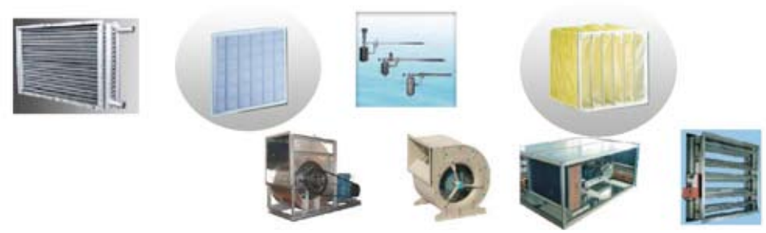
Vertical Type Air Handling Unit Performance Parameters(Return Air)

Product type	Rated air volume	Rated cooling capacity		Rated heating capacity		External static pressure		Motor power	Water flow		Water resistance		Noise	Weight		Dimension
		4R	6R	4R	6R	4R	6R		4R	6R	4R	6R		4R	6R	L×W×H
	m^3/h	kW		kW		Pa		kW	L/s		kPa		dB(A)	kg		mm
LKCL2A	2000	11.1	14.9	16.5	22.2	200	150	0.32	0.53	0.71	4.6	8.6	56	90	94	550×850×1180
LKCL3A	3000	15.2	22.2	22.6	33.1	190	140	0.55	0.73	1.06	8.7	18.9	58	109	114	550×1150×1200
LKCL4A	4000	21.3	29.4	31.7	43.8	250	200	1.1	1.02	1.4	12.7	28	59	162	169	650×1460×1270
LKCL5A	5000	32.9	37.9	49	56.5	280	280	1.5	1.57	1.81	13.2	28.5	60	183	192	670×1500×1350
LKCL6A	6000	33.6	45.7	50.1	68.1	250	250	1.5	1.6	2.18	11.5	20.7	61	213	224	730×1600×1480
LKCL7A	7000	40.2	53.9	59.9	80.3	200	200	1.5	1.92	2.57	13.8	22.7	62	241	252	760×1680×1640
LKCL8A	8000	48.1	63.5	71.7	94.6	250	250	2.2	2.3	3.03	14.8	30.7	62	258	271	760×1680×1700
LKCL9A	9000	52.8	70.8	78.7	106	300	300	3	2.52	3.38	9.5	18.4	63	293	307	820×1840×1740
LKCL10A	10000	59.9	78.9	89.3	118	300	300	3	2.86	3.77	11.2	17.7	64	303	318	820×1880×1790
LKCL12A	12000	72.8	95.9	109	143	350	350	4	3.47	4.58	14.7	21.2	65	379	399	920×1920×2030
LKCL14A	14000	87.4	113	130	168	400	400	5.5	4.17	5.39	14.9	26.7	65	420	442	920×2000×2100
LKCL16A	16000	102	131	152	195	400	400	5.5	4.85	6.27	18.9	36.8	66	557	594	1040×2270×2200
LKCL18A	18000	115	147	171	219	400	400	5.5	5.48	7.05	21.3	39.7	67	576	618	1040×2350×2260
LKCL20B	20000	128	164	191	244	300	300	3×2	6.12	7.83	23.1	38.7	68	591	640	820×2550×2040
LKCL25B	25000	162	207	241	308	350	350	4×2	7.75	9.9	32.1	40.5	68	750	810	920×2840×2280
LKCL30B	30000	195	248	291	370	400	400	5.5	9.33	11.9	20.9	43.8	70	889	959	1040×3100×2350

Performance values refer to the following conditions:

- Cooling capacity is measured under the condition:
  Air inlet temperature DB 27°C/WB 19.5°C, water inlet temperature 7°C, water temperature difference 5°C.
- Heating capacity is measured under the condition:
  Air inlet temperature DB 21°C, water inlet temperature 60°C.

Modular Air Handling Unit



Features

• LARK's Modular Air Handling Units give you the flexibility to meet the requirements of your application, including horizontal and vertical units.
• Wide application as hotel, apartment, factory, shopping center, office building, school, etc.
• Modular design, assemble flexible, installation convenient.
• Compact, lightweight design conserves space.
• Smooth operation, low noise, and high total pressure.
• Multiple coil design.
• Chilled water evaporator coil or DX type coil with direct expension remote condensor.
• Multiple arrangements including top discharge and side discharge.
• Good sealing, low leakage rate, high heat transfer efficiency.
• Nice appearance, corrosion resistance, convenient maintenance.

Instruction of model

L ZK 12 W H Z

- Z: Connecting pipe direction, "Z": Left, "Y": Right
- H: "H": Return air, "X": Fresh air
- W: "W": Horizontal, "L": Vertical
- 12: Air flow (12×1000 m^3/h)
- ZK: Assembly type air handling unit
- L: Lark product

Additional

Please declare the direction of inlet/outlet air.

Model of Air Handling Unit

Model	Air flow	Total pressure	Motor power	Total pressure	Motor power	Total pressure	Motor power
	m^3/h	Pa	kW	Pa	kW	Pa	kW
LZK2	2000	800	0.75	1200	1.5	1600	2.2
LZK4	4000	800	1.5	1200	2.2	1600	3
LZK6	6000	800	2.2	1200	3	1600	4
LZK8	8000	800	3	1200	4	1600	5.5
LZK10	10000	800	4	1200	5.5	1600	7.5
LZK12	12000	800	5.5	1200	7.5	1600	7.5
LZK15	15000	800	5.5	1200	7.5	1600	11
LZK18	18000	800	7.5	1200	11	1600	11
LZK20	20000	800	7.5	1200	11	1600	15
LZK25	25000	800	11	1200	15	1600	15
LZK30	30000	800	11	1200	15	1600	18.5
LZK35	35000	800	15	1200	18.5	1600	22
LZK40	40000	800	15	1200	22	1600	30
LZK50	50000	800	18.5	1200	30	1600	30
LZK60	60000	800	22	1200	30	1600	37
LZK70	70000	800	30	1200	37	1600	45
LZK80	80000	800	30	1200	37	1600	55
LZK90	90000	800	37	1200	45	1600	55
LZK100	100000	800	45	1200	55	1600	75

Return Air & Cooling Condition

Model	Air flow	4R				6R				8R			
		TC	SC	Water flow	Water resistance	TC	SC	Water flow	Water resistance	TC	SC	Water flow	Water resistance
	m^3/h	kW	kW	m^3/h	kPa	kW	kW	m^3/h	kPa	kW	kW	m^3/h	kPa
LZK2	2000	11.0	8.8	1.9	3.9	15.1	12.0	2.6	8.4	17.5	14.0	3.1	21.8
LZK4	4000	21.4	17.1	3.7	16.2	29.5	23.6	5.1	34.4	34.6	27.6	6.0	40.2
LZK6	6000	33.6	26.0	7.2	28.7	46.7	37.4	8.1	38.6	54.1	43.3	9.4	13.6
LZK8	8000	42.2	32.3	8.2	47.6	61.8	49.4	10.7	42.3	71.6	57.3	12.4	30.2
LZK10	10000	58.9	47.2	10.2	10.60	78.5	62.8	13.6	21.40	90.4	72.3	15.6	14.2
LZK12	12000	71.0	55.4	12.1	14.60	92.9	74.7	16.3	21.70	109.4	87.5	18.9	18.4
LZK15	15000	84.9	69.9	15.0	13.46	104.3	83.4	18.0	18.36	121.8	97.4	21.0	30.3
LZK18	18000	106.4	83.1	18.9	22.20	137.9	108.3	24.5	43.50	167.7	134.1	28.9	36
LZK20	20000	118.4	92.7	21.2	24.50	155.9	122.7	27.2	39.20	187.4	150.0	32.3	32.3
LZK25	25000	145.2	112.1	27.1	39.30	189.4	149.5	32.9	28.70	220.7	176.5	38.1	39.2
LZK30	30000	200.7	160.6	34.6	30.20	241.8	193.5	41.7	26.60	266.9	213.5	46.0	28.9
LZK35	35000	237.7	190.2	41.0	40.50	285.1	228.1	49.2	36.50	317.1	253.6	54.7	68.9
LZK40	40000	271.8	217.4	46.9	45.50	327.5	262.0	56.5	41.90	361.1	288.8	62.2	91.4
LZK50	50000	330.4	264.3	57.0	39.30	398.7	319.0	68.7	28.70	441.3	353.1	76.1	25.2
LZK60	60000	401.4	321.1	69.2	30.20	483.6	386.9	83.4	26.60	533.9	427.1	92.0	67
LZK70	70000	475.5	380.4	81.9	40.50	570.2	456.1	98.3	36.50	634.1	507.3	109.3	80.7
LZK80	80000	493.0	394.4	85.0	45.50	655.0	524.0	112.9	41.90	722.1	577.7	124.4	108
LZK90	90000	539.8	431.9	93.0	54.75	695.7	556.6	119.9	86.83	792.7	634.1	136.6	121
LZK100	100000	660.7	528.6	113.9	76.84	797.4	637.9	137.4	88.53	882.7	706.1	152.1	125

Performance values refer to the following conditions:

Air inlet temperature DB 27°C/WB 19.5°C , water inlet temperature 7°C, water temperature difference 5°C.

Water Chilled Fan Coil Unit

Air Flow: 340-2380m³/h

Characteristics

Frame and structure

Panels and frame are made from galvanized steel, properly punched and punched for fixing both accessories and the unit itself

Heating coil

The coils are made from seamless tubes expanded into aluminum fins in continuous block. The connections have brass headers with female fittings and provided with easily accessible vent and drainage valve

Fan deck

The fan decks are composed of double suction centrifugal fans with aluminum impellers and 3-speed fan motors. Each fan motor assembly is dynamically balanced

Drip tray

The drip trays are made from sheet metal treated with polyester powder coating to ensure total resistance to atmospheric agents

Filter

The easily removable filter is made of filtering honeycomb polypropylene fabric and supported by an aluminum frame. The filter is installed on the units with plenum only

Electric connection box

All electric wires are connected to enclosed electrical terminal block, situated on the same side of the water connections

Optional

- ♦ On-board thermostat and remote thermostat
- ♦ Electric heater
- ♦ Return air box
- ♦ Balancing valve

Nomenclature

L FP N E F B 5.1 M
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Lark air product
② Fan coil
③ Installation method
  L: With supporting legs
  N: Without supporting legs
④ Unit version
  C: Concealed version
  E: Exposed version with plastic covers
⑤ Air intake
  F: Front air intake
  O: Underside air intake
⑥ Coil type
  A: 2 pipe 2 rows
  B: 2 pipe 3 rows
  C: 2 pipe 4 rows
  D: 4 pipe 2+1 rows
  E: 4 pipe 3+1 rows
⑦ Air flow
⑧ External static pressure
  --: Standard (12Pa)
  M: Medium static pressure (30Pa)
  H: High static pressure (50Pa)

2 PIPES 3 ROWS

Model		Unit	3.4	5.1	6.8	8.5	10.2	13.6	17.0	20.4	23.8
Air flow	H	m³/h	340	510	680	850	1020	1360	1700	2040	2380
	M	m³/h	255	383	510	638	765	1020	1275	1530	1785
	L	m³/h	170	255	340	425	510	680	850	1020	1190
Total cooling capacity *	H	W	1800	2700	3600	4500	5400	7200	9000	10800	12600
	M	W	1440	2160	2880	3600	4320	5760	7200	8640	10080
	L	W	1170	1755	2340	2925	3510	4680	5850	7020	8190
Sensible cooling capacity *	H	m³/h	1307	1961	2615	3268	3922	5229	6537	7844	10300
	M	m³/h	1177	1765	2353	2942	3530	4706	5883	7060	8500
	L	m³/h	1059	1588	2118	2647	3177	4236	5295	6354	7460
Heating capacity *	H	W	2700	4050	5400	6750	8100	10800	13500	16200	18900
	M	W	2160	3240	4320	5400	6480	8640	10800	12960	15120
	L	W	1857	2633	3510	4388	5265	7020	8775	10530	11340
Standard external pressure		Pa	12	12	12	12	12	12	12	12	12
Power input	12Pa	W	35.2	46	57.4	69	86	123	160	189	228
	30Pa	W	39.5	55	66.9	82	100	136	175	211	247
	50Pa	W	49.5	59	85.4	93	108	155	188	236	297
Sound pressure level **	12Pa	dB(A)	37	39	41	43	45	46	48	50	52
	30Pa	dB(A)	40	42	44	46	47	48	50	52	54
	50Pa	dB(A)	42	44	46	47	49	50	52	54	56
Net weight		kg	10.5	14.6	16	16.5	18.5	23.5	25.5	30.5	35.5
Water flow rate		m³/h	0.4	0.51	0.71	0.92	1.05	1.4	1.75	2.1	2.5
Water pressure drop		kPa	20	20	25	30	35	40	40	45	50
Water connections		Inch	RC 3/4"								
Drain pipe		Inch	RC 3/4"								
Fan motor quantity		Nr.	1	1	1	1	1	2	2	2	2
Fan quantity		Nr.	1	2	2	2	2	3	4	4	4
Max. working pressure		MPa	2								
Power supply		/	220V/1Ph/50Hz								

4 PIPES 3+1 ROWS

Model		Unit	3.4	5.1	6.8	8.5	10.2	13.6	17.0	20.4	23.8
Air flow	H	m³/h	340	510	680	850	1020	1360	1700	2040	2380
	M	m³/h	255	383	510	638	765	1020	1275	1530	1785
	L	m³/h	170	255	340	425	510	680	850	1020	1190
Total cooling capacity *	H	W	1800	2700	3600	4500	5400	7200	9000	10800	12600
	M	W	1440	2160	2880	3600	4320	5760	7200	8640	10080
	L	W	1170	1755	2340	2925	3510	4680	5850	7020	8190
Sensible cooling capacity *	H	m³/h	1307	1961	2615	3268	3922	5229	6537	7844	10300
	M	m³/h	1177	1765	2353	2942	3530	4706	5883	7060	8500
	L	m³/h	1059	1588	2118	2647	3177	4236	5295	6354	7460
Heating capacity *	H	W	810	1215	1620	2025	2430	3240	4050	4860	6300
	M	W	729	1094	1458	1823	2187	2916	2645	4374	5040
	L	W	656	984	1312	1640	1968	2624	3281	3937	3780
Standard external pressure		Pa	12	12	12	12	12	12	12	12	12
Power input	12Pa	W	35.2	46	57.4	69	86	123	160	189	228
	30Pa	W	39.5	55	66.9	82	100	136	175	211	247
	50Pa	W	49.5	59	85.4	93	108	155	188	236	297
Sound pressure level **	12Pa	dB(A)	37	39	41	43	45	46	48	50	52
	30Pa	dB(A)	40	42	44	46	47	48	50	52	54
	50Pa	dB(A)	42	44	46	47	49	50	52	54	56
Net weight		kg	10.5	14.6	16	16.5	18.5	23.5	25.5	30.5	35.5
Water flow rate		m³/h	0.4	0.51	0.71	0.92	1.05	1.4	1.75	2.1	2.5
Water pressure drop		kPa	20	20	25	30	35	40	40	45	50
Water connections		Inch	RC 3/4"								
Drain pipe		Inch	RC 3/4"								
Fan motor quantity		Nr.	1	1	1	1	1	2	2	2	2
Fan quantity		Nr.	1	2	2	2	2	3	4	4	4
Max. working pressure		MPa	2								
Power supply		/	220V/1Ph/50Hz								

* The data are referred to the following conditions:
Cooling: room temperature: 27 ºC 50% RH, water temperature: 7/12 ºC, high speed.
Heating: room temperature: 21 ºC, water inlet temperature: 60/50 ºC, high speed.
** Sound pressure measured in anechoic room 1.5 m away from the unit.